

NASA Risk Management Conference 2005 (RMC VI)

Session E: Methods and Metrics for Reducing Risk

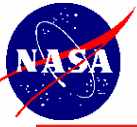
Supplier Risk Management Assessment Results

***Phil Montag
Program Manager***



**Coronado Springs Resort
December 8, 2005**

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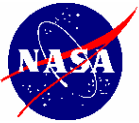


SUPPLIER RISK

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- *Methods*, to Identify risks
 - What events occurred v.s. what events could occur
- *Metrics*, used to Analyze data
- Plan the Actions to take
- Track the effectiveness of the plan (risk mitigation)
 - Monitor corrective actions taken to mitigate risk
 - Linkage of risks identified to risk realized
- Controls put in place to prevent reoccurrence
 - Change paradigm, Proactive instead of Reactive.

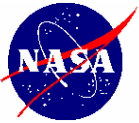




METHODS TO IDENTIFY SUPPLIER RISK

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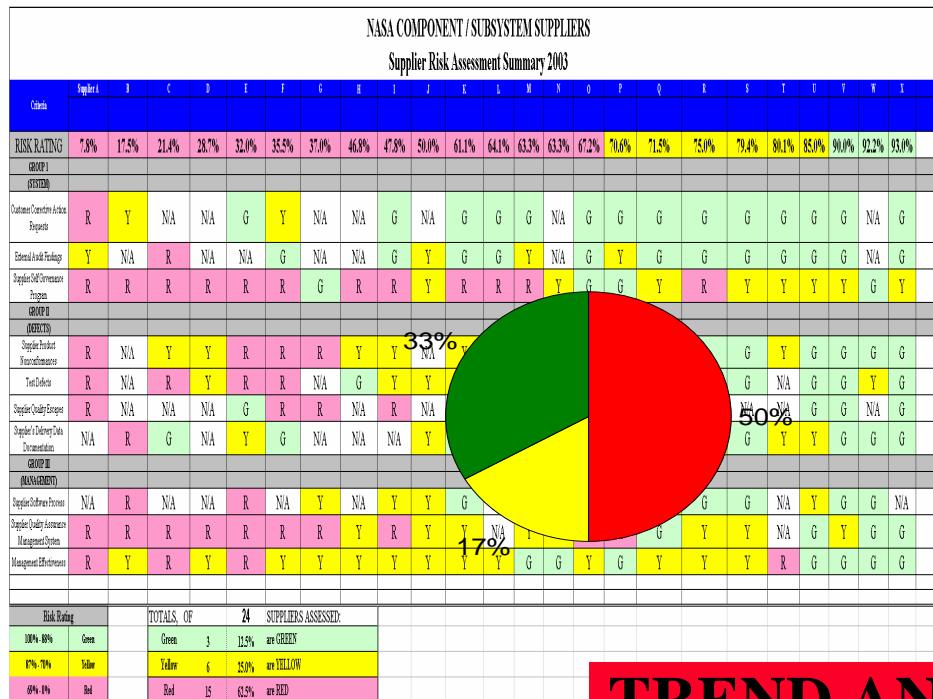
METHOD	TYPES	RISK
Assessment / Audit	Pre-Award, Contract Flowdown, Facility, Product, Process, Program	Snapshot in time Large variation in methods and results Pre-capability may be visionary If no follow-up by customer, process loses credibility Skill level and experience of auditors
Onsite Personnel	Oversight/Insight, DCMA, Source Inspection	Perceived as enemy, not help Risk of becoming too embedded Lacks authority to stop or report risks Relieves supplier of responsibility Operational knowledge base
Data Monitor	CDRLs, MIPs, Probability of Failure, QRA, Performance Monitors (escapes, in-process rejects, min yield)	The right data Validity of data (trust) The right subject matter expert reviewing the data.



METRICS: HOW TO QUANTIFY

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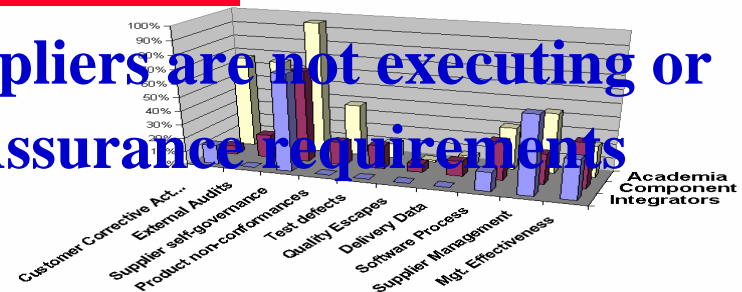
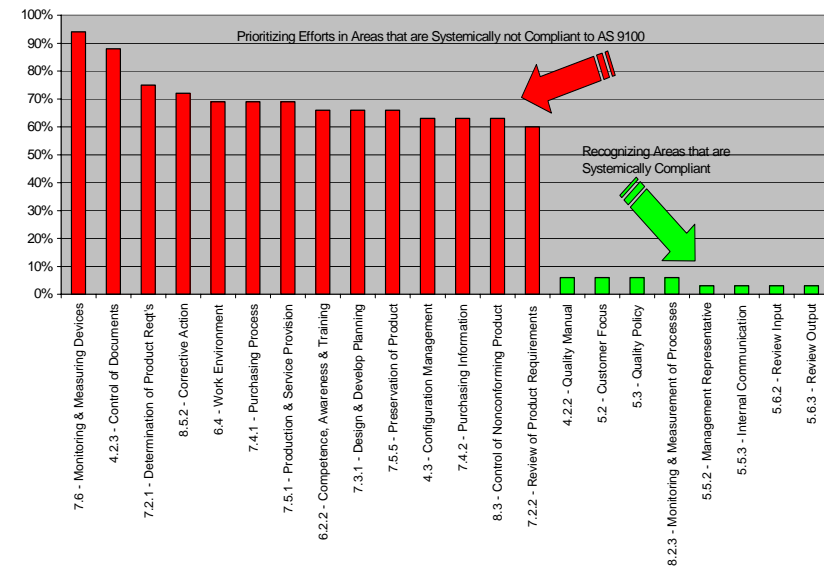
Quality Leading Indicators – QLI (RYG)

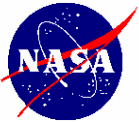


TREND ANALYSIS

Contractual non-compliance: Suppliers are not executing or fulfilling the Safety and Mission Assurance requirements outlined in the NASA contract.

COUNTING (findings)





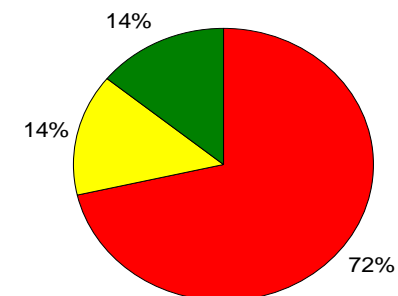
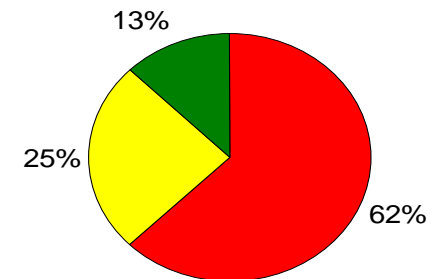
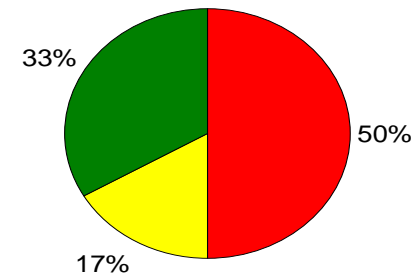
Risk Rating Results

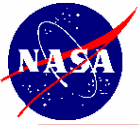
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➤ **SYSTEM
INTEGRATORS (6)**

➤ **COMPONENT/SUBSYS
SUPPLIERS (24)**

➤ **ACADEMIA (7)**

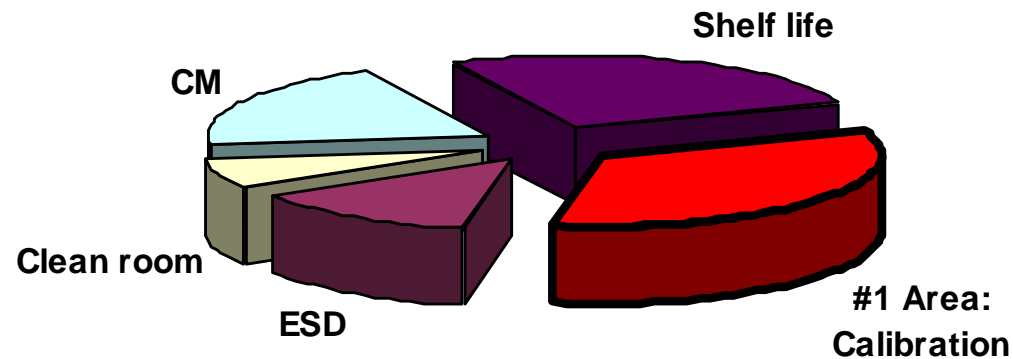




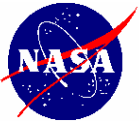
SAC Assessment Results 2003/2004

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SYSTEM INTEGRATORS



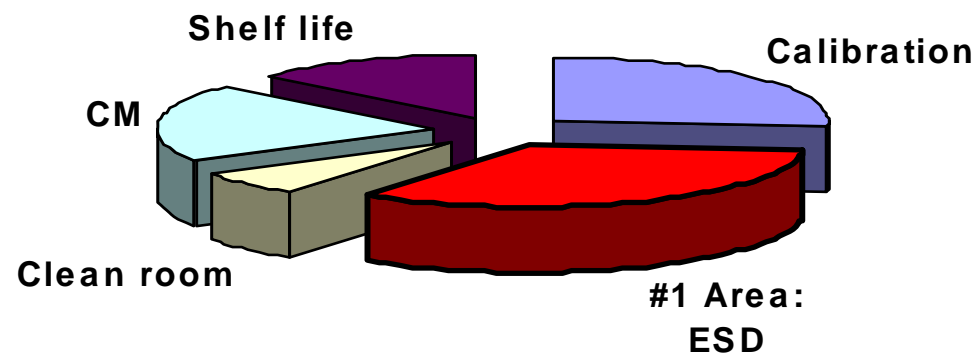
Areas of greatest risk under Self Governance



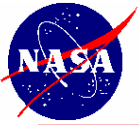
SAC Assessment Results 2003/2004

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COMPONENT/SUBSYSTEM SUPPLIERS



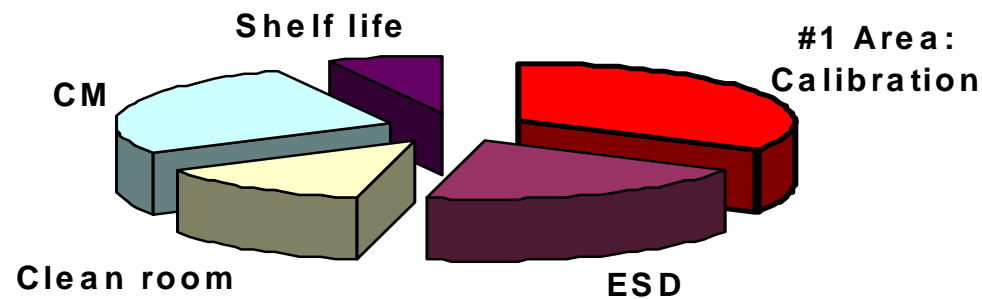
Areas of greatest risk under Self Governance



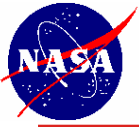
SAC Assessment Results 2003/2004

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ACADEMIA

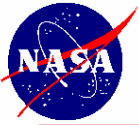


Areas of greatest risk under Self Governance



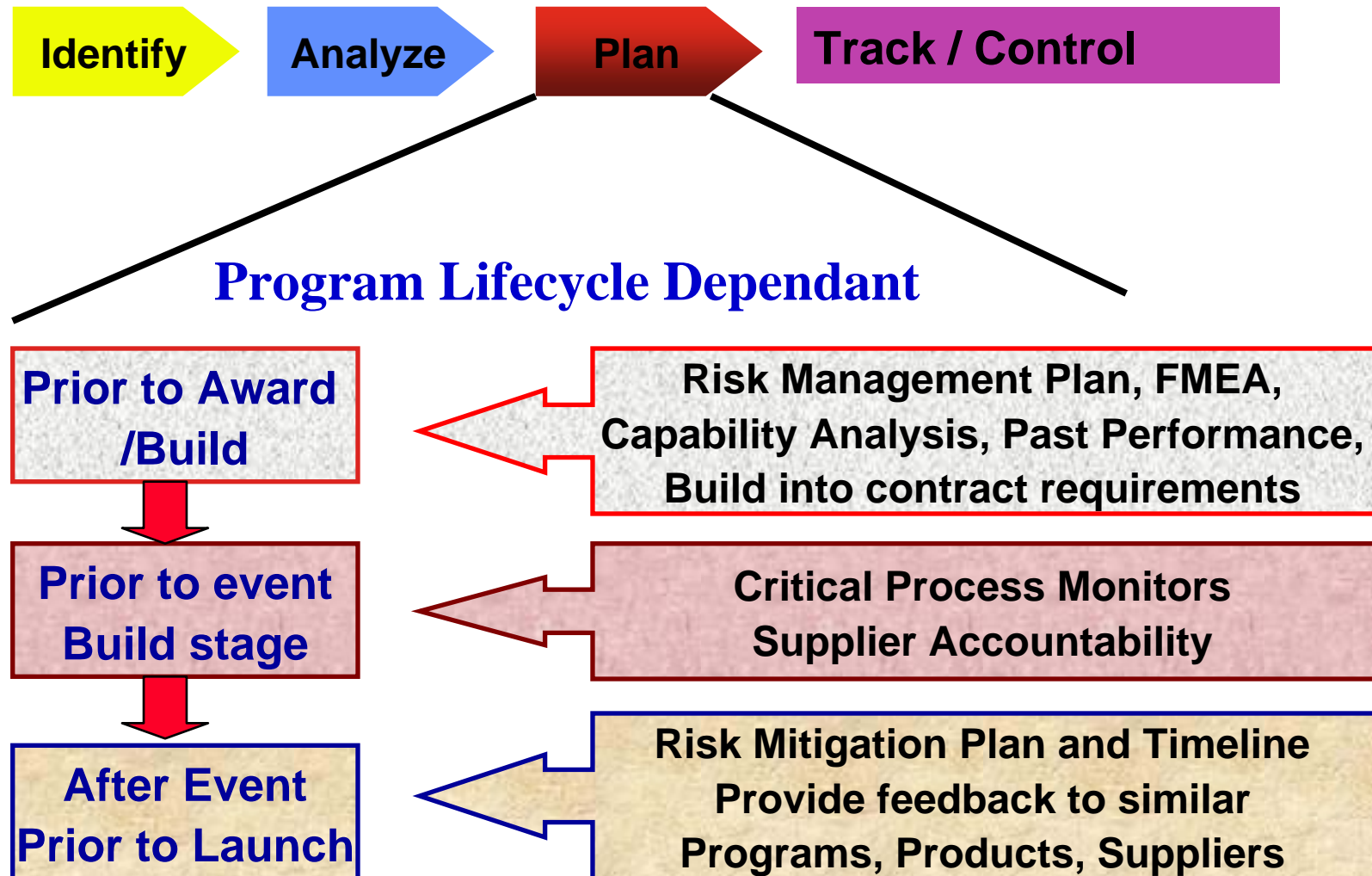
Common Risk Areas

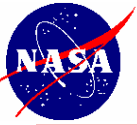
- **Customer Notification:** Many 'understandings' and 'e-mail approvals' in place with respect to contract requirements.
- **Industry standards:** Suppliers not using current industry standards or not aware of use of outdated standards.
- **Outsourced calibration:** Poor supplier control and monitoring of calibration services providers.
- **Documentation:** With mergers and acquisitions, multiple documentation/management systems in place.



PLAN FOR *REDUCING RISKS*

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TRACK AND CONTROL

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➤ VISIBILITY

- Progress on Issues identified > Mentality is to close findings, not monitor for effectiveness
- Early warnings > Watch for unique failure modes that may be ignored
- Make risk visible to key stakeholders

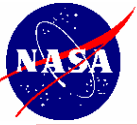
➤ ACCOUNTABILITY

- Start early in program development > design methods
- Who is responsible > management, employee roles
- Why is it important (“don’t know, don’t care”)

➤ ACKNOWLEDGEMENT

- Supplier recognizes deficiency identified IS a risk.
- Sometimes you need to convince.

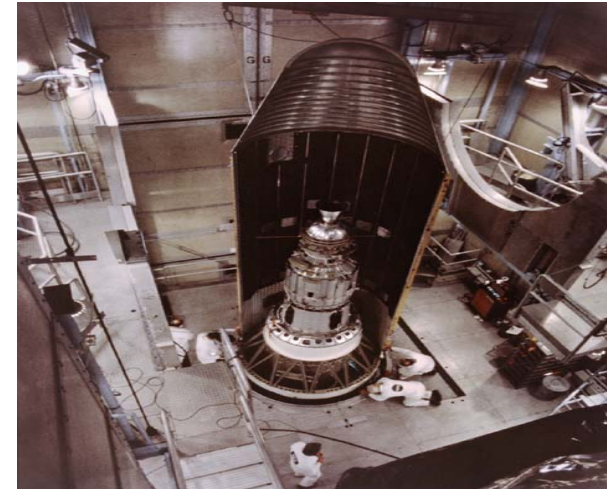




CONCLUSIONS

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- No surprises
- Methods continue to evolve
 - MOU with JAPC
 - Centers have their own methods
- **Pre-Award Supplier Analysis** using guidelines developed from lessons learned and FMEA is best way to reduce risk in the beginning.
- Ongoing > Visibility (to data, trends, risks) and accountability for the same.

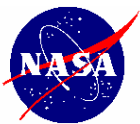


Thank You

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